

THE
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PROFESSOR BALDWIN ON THE PRAGMATIC
UNIVERSAL.

In a very comprehensive and suggestive article on 'The Limits of Pragmatism' in the *PSYCHOLOGICAL REVIEW*, Volume XI., No. 1,¹ Professor Baldwin finds, as do many others, one of the chief 'limits' to be the inability of pragmatism to make universal judgments. He finds it "interesting to note that the word 'general' does not occur in the rather full index to the *Chicago Studies in Logical Theory*,"² which is freely cited as representative literature of pragmatism. Now if Professor Baldwin had but recalled what he must well know, that nothing is so fickle as an index, he would have turned to 'universal,' especially as he interchanges this term with 'general,' under which he would have found eight references, some of them extended with 'ffs.' And in the monograph on 'Existence, Meaning and Reality,' to which he also refers, there is space to the amount of five octavo pages given almost entirely to the discussion of universality. Indeed it is difficult to see how one could go through the 'Chicago Contributions' and emerge with an impression that this topic had been neglected.

As there is a conception of abstract universality, which is difficult to reconcile with any sort of pragmatism, so there is current, largely among its critics, a conception of pragmatism which is difficult to square with any kind of universality. So far as I have seen, the imputations of 'Atomism,' 'Nominalism,' etc., are based, not on a criticism of the fundamental conceptions of pragmatism, but on an atomistic interpretation of Professor James' pluralism. I say 'an atomistic interpretation,' for it seems to me that it does not require a second look to discover that Professor James' pluralism is not sheer atomism.

¹ The tardiness of this discussion has only the time-honored excuse — 'the press of other work.'

² Footnote, p. 53.

Everywhere there is 'inter-action,' 'stimulus and response,' 'generation' and 'growth.' The emphasis of the pluralistic character is simply a reaction against a lust for a unity so absolute that there is no room in it for any movement of differences. And here, to my mind, we touch the metaphysical nerve of the whole pragmatic movement. Pragmatism is not concerned primarily with the problem of unity and plurality, although experience is as manifestly a plurality as a unity. Its chief concern is with the problem of change, of development. It is an attempt to reach such a conception of unity, *and* differences, as shall permit of 'real' movement. It is a crusade to release Change from the limbo of Appearances, and Reality from the stocks of a changeless Unity.

Seeing that the champions of unity have almost with one voice insisted that the unity of reality involves its unchangeableness, some, who cherish convictions against such cashiering of change, have apparently accepted this verdict of absolutism and said in effect, 'if the choice is between absolute unity with absolute fixity on the one hand, and absolute plurality with movement, development, on the other, we accept the latter.' But the pluralist at once restores unity by his categories of 'interaction' 'stimulus and response,' etc.; only now he has a dynamic instead of a static unity. It is quite 'possible, then, that one may be a pragmatist' and insist emphatically upon this moving unity. At all events, the attempt to throw the pragmatist's case out of court at the start on the plea of 'atomism' is certainly premature.

Returning to Professor Baldwin's 'limit,' he finds that while perfectly capable of making particular judgments, pragmatic logic is impotent when it attempts to deal with the universal (pp. 50, 52 ff.). Now to many modern logicians, including perhaps most pragmatists, it would seem that such an indictment could be drawn only on the conception of a pretty separate and independent relation between the particular and the universal. Most pragmatists, I think, would regard it impossible to have a valid logic of particular judgments apart from a logic of universals. For every judgment is a development of experience through a universal. A standpoint, therefore, which is able to construct a valid logic of the particular judgment must have in it, whether or not it has actually been brought out, a logic of the general.

In Professor Baldwin's account of the universal it seems to play, as in the statements of Professor Royce and Mr. Bradley, two quite different rôles, and the relation between them is very difficult to

discover.¹ "It is just the meaning of a general mode of thought that it stands for the particular case in the sense of organizing it with other experiences" (p. 53). On the other hand 'the general concept pretends to be valid as a vehicle of the real apprehension of the world. Now this is capable of an interpretation quite in agreement with (1); and indeed Professor Baldwin comes near giving it such a treatment on the page quoted, as will be shown below. But on the very next page we read that this world, the real apprehension of which it is the business of the universal and normative aspects of experience to give us, is one that transcends the experiences of real life. "How can practical life adequately test the validity of modes which essentially claim to transcend the experiences of real life?" Here, indeed, I am inclined to think there is nothing for the pragmatist but to humbly confess his impotence.

On the test of the universal Professor Baldwin says (p. 53): "No appeal to a concrete situation can validate an aspect of reality which is *ipso facto* a systematization of various such situations or cases. There must be, therefore, if such thinking is to have any control or positive validation, certain principles of logically apprehended reality as such. This would throw us back upon the traditional 'laws of thought,' I suppose, or some analogous self-applying criteria of sound thinking."

At the risk of appearing captious, the discussion at this point will have to run somewhat to an exposition of terms. If we take 'concrete' etymologically it should mean the unified harmonious grown-together stage of experience which does not need 'systematizing.' It is the immediate outcome or forerunner of systematization. It is only when experience ceases to be 'concrete' in this sense that organization is required. The general, therefore, is not a system 'of various concrete experiences as such.' It is only when experience is broken up and becomes material, a 'matrix,' a 'platform,' to use a term of Professor Baldwin's, for further experience, that it needs organization.

¹ As another illustration of the strange *tête-à-tête* a philosophical discussion may bring about the following is interesting: On p. 53 Professor Baldwin says: "This may be a way of saying, with many modern logicians, that only particular, not universal judgments carry the affirmation of reality: if we limit ourselves to pragmatic tests, available only in concrete experience, I see no way of avoiding such a view. But such a position it seems to me allies pragmatism with extreme nominalism." But what about the 'many modern logicians' holding this view, who are not pragmatists? (Indeed I know of no pragmatist who holds it.) And it is just the absolutists who are the chief expounders of this view. Behold then, according to our author, the pragmatist and the absolutist sitting together in the tent of nominalism!

The point can be stated in terms of the conception of 'system.' Why should various 'concrete' experiences need systematizing anyway? And in just what does the systematization consist? And how is it known when systematization is reached? Professor Baldwin says that systematization consists in 'organizing a particular case with other experience.' Here, of course, we have only exchanged terms. For we have forthwith to answer for 'organization.' Nor are we much better off in the next sentence. "It introduces organization, relationship and systematization into experience just to the dropping off those aspects which are individual." Thus, experience becomes general by being organized with other experiences, and it is organized by becoming general, that is, by 'leaving off the individual aspect.' And what, by the way, are these individual aspects? Does every experience have a certain quality that is in itself individual and a certain other that is in itself universal? But of this more below. So far, at any rate, we have made little progress in finding a criterion of organization and system. And the difficulty in starting out to systematize and organize experiences just at large is very great. None of this is intended to call in question the fact of system and organization in experience. It desires only to call for an interpretation instead of a mere assumption of them.

Nor do I see that we gain much by 'falling back upon the traditional laws of thought'—consistency, contradiction, etc. For we must at once face the question: What is the meaning of 'consistent,' or, as Professor Baldwin calls it, 'flawless' thinking, in terms simply of the process itself? Professor Baldwin does not explicitly deal with this question, but I imagine the only answer he could make is the one generally made, viz., that it is simply 'the sense of a harmonious, unified, unimpeded flow of the thought process within itself.' If so, are we not caught on the very sands of 'subjectivism' and 'atomism' from which we have been so frantically warning the pragmatist? If the test of thinking is consistency and the mark of consistency is simply the immediate sense of harmony and freedom in the process in itself, apart from any limit in further experience, and if we take this as in itself yielding truth, reflecting reality, is not this the very essence of subjective atomism? The abstract universal is thus just as subjective and atomistic as the abstract particular. Nor can we escape by an appeal to 'the essential uniformity of intelligence as such.' This is as gigantic a *petitio*—to say nothing of 'the facts in the case'—as its 'empirical' correlative 'the uniformity of nature.'

There appears, then, to be need for some further analysis of 'sys-

tem,' 'organization,' 'consistency,' 'contradiction,' etc. Roughly sketched, the pragmatist's contribution to this demand runs somewhat as follows: he points out that every experience (and the distinction between 'experience in general' and 'my experience' matters not just here) has two values; (1) it has a unique value of its own as immediate experience; (2) it has a value as the basis, the 'platform' of further experience. And it is to this latter function that the categories of organization, consistency, universality and particularity, validity, truth and error belong. Taken in its bare immediacy, experience is neither valid nor invalid, true nor false, systematic nor chaotic, consistent nor inconsistent. It is only as a means to, or as an outcome of other experience that any content takes on these characteristics. Of course the process of systematizing has its own immediate sense value. But the point is that when we get at the conditions and significance of this 'sense' we find they lie in *its relation to further experience*. Shorn of this developmental character, organization, system, validity, etc., are indeed left without any 'limits' by which to define them. They remain terms referring to immediate qualities of experience offering and requiring no credentials of any sort.

If we pass now to the process of systematization itself, Professor Baldwin says that it proceeds by 'dropping off those aspects which are individual.' Taken as it stands, this certainly has in it a suggestion of old-time 'realism.' It reads as if there were in experience something *per se* individual and something else *per se* universal. But even if this were the case, why should the 'dropping' of the individual characteristics produce system or organization? Why would not the individual aspects themselves make as good a system as the universal? Now I do not think that any one who has read Professor Baldwin's most suggestive chapter on 'Selective Thinking'¹ and his debate with Mr. Bosanquet² on it, could regard any such statements as the above as representing his 'settled views.' Just as we there are taught that a content of experience 'is not selected because it is true, but is true because it is selected'; so, while the point is not explicitly treated, the whole trend and tenor of 'Selective Thinking' would lead us to say that systematization is not something determined wholly in and to itself, but is a process which is relative to and has its goal in a further concrete experience.³ The doctrine of that chapter, also,

¹ PSYCHOLOGICAL REVIEW, January, 1898, and Chap. XVII. of *Development and Evolution*.

² PSYCHOLOGICAL REVIEW, Vol. X.

³ Here it must be remembered that 'concrete' is used, not as the correlative of universal, *i. e.*, not in the sense of particular, but as meaning that stage

would lead us to say, not that certain elements of experience are 'dropped' because they are *per se* particular, and others are retained because *per se* general, but the rather that they are particular because they are dropped and general because they are retained. It is just the fact that a certain content persists as the basis, the 'platform,' the *point d'appui* of further concrete experience, that makes it general. Also since Locke's analysis of Essence it has been well understood that what is 'dropped' as particular in one situation is retained as general in another. Generality, therefore, is not a kind or quality of content, but is the relation which any content bears to the further development of experience. In short, universality does not mean an absolutely changeless possession of all intelligence. It means rather the *continuity* of experience—the fact that experience is a self-developing process.

If this be the meaning of universality, and if by 'concrete' we mean just the further experience in which both the general and the particular disappear, then what else but the 'concrete' can be the 'test' of the universal? To be sure, it cannot test it as a representation or reflection of a reality which 'transcends all real life.' But it can test it as a developmental device *inside* the process of 'real life.' It is when we lose sight of this productive, developmental, this forward-moving function of the universal, that we have nothing left but to 'fall back on the traditional laws of thought' for the test of its validity.

Now pragmatism is not an attempt to sponge these 'traditional laws of thought' from the statutes. It simply insists that in themselves they do not constitute the final test of truth. *They constitute the cues and guides of the generalizing process.* They are part of the *technique* of thinking. In terms of habit they are, as Professor Baldwin well shows, part of the machinery whereby an hypothetical selection of material for adjustment is made. Here is where the so-called 'universal judgment' appears with its technique of 'consistency,' 'contradiction,' etc. The universal judgment is an expression of the habit elements involved in *every* judgment.¹ Hence, indeed, its 'hypothetical' character. But again not 'hypothetical' *in* or 'aspect' of experience to which the universalizing and particularizing process leads and in which they, as such, disappear.

¹Here may be the place to remark that it is possible that the treatment in logics of the Universal Judgment as *kind* of judgment, apparently complete in itself, tends—despite subsequent qualifications—to nourish the notion that there must therefore be a special kind of reality corresponding to it—which, not being found of course in 'real life,' must exist in a 'transcendent' realm.

itself. As an immediate experience it is as 'categorical' and 'real' as any other. It is 'hypothetical' only with reference to further experience, only because *it is not only an immediate but at the same time a mediating experience.* And in this latter rôle, the test of its validity cannot lie merely 'within itself.'

And this suggests that the solution of the different views of the function of the universal in 'real life' is perhaps to be found in the avoidance of a confusion of the immediate and mediating values of experience. The critics of pragmatism insist that thought is just as 'good' and 'real' and 'true' an experience as any other; to all of which the pragmatist enthusiastically subscribes. Aye, the intellectually tempered pragmatist (paradoxical as this may sound to some) may go even further and say with some of his critics that instead of being merely instrumental (in any *subordinate* sense) thought may well be regarded as the *end* to which all the other aspects of experience may be considered as means.

Even so, this yields the pragmatist's whole contention, viz., *that thought is not sufficient unto itself.* It must have 'means.' It can renew and feed itself only in and through the great stream of instinctive emotional and volitional content. It too must lose its life to find it. In insisting on the 'real,' 'true,' valid-in-itself character of thought the critic is taking thought in its immediate character. But this is not thought as a logical process; and 'true,' 'real,' 'valid' are here not logical categories. It is the mediating function of thought that gives it its logical quality, and to speak here of 'truth' and 'validity' with no reference to the goal of the mediation is surely a flagrant case of Hamlet without the Prince.

Such an omission too would seem to be pretty nearly equivalent to cutting off the second part of what Prof. Baldwin in his 'Selective Thinking' gives as, 'The test of truth in the external world.' 'The first test is that of assimilation to established habits.' Instead of 'test,' etc., I should prefer to say, 'step towards constructing truth,' and instead of 'assimilation to' I should prefer 'response of.' Professor Baldwin continues: 'This is the test of the general character of a new experience.' Again, instead of 'test of' I should write 'constitutes.' Second, 'there is the environmental test or test of fact.' That is, 'there is a further selection from these established habits of those which work in the specific environment.' Here, for 'selection from,' etc., I should say 'reconstruction or modification of.' At any rate it is here clearly recognized that there may be an internal technique of

¹ Section 6 of the chapter.

generalization that does not as such give truth. Thought does not become 'true,' is not 'validated,' until it is tested by its results under the specific conditions. "A truth is an item of content which is expected when issuing in a movement to work under the exactions of fact." Again: 'There is no question of truth until *both* these selective functions have been operative.'¹ Here it is certainly implied that in the first 'test' alone we get only the abstract, formal universal—the mere statement that whatever the outcome is to be, it will be some kind of a reconstruction of certain established habits.

But from the standpoint of his paper on 'The Limits of Pragmatism' Professor Baldwin might be expected to reply, "Ah, but you have been quoting from my account of 'tests of truth *in the external world*,'" whereas my point here is that there is a realm of purely universal truth as expressed in the universal judgment, which is independent of 'the test of fact' or environment." The rejoinder obviously would repeat the burden of the whole preceding discussion, the net outcome of which is that when thought is thus cut off from the rest of 'real life' and is regarded as a self-sufficient, self-perpetuating process, it becomes essentially a subjective and atomistic affair. Truth and error consist merely in an immediate sense of harmony or contradiction unchecked by any 'limits' in further experience.

As already intimated this consequence is masked under the assumption of 'the essential unity of intelligence as such.' This really is a back door resumption of the social and other 'real-life' tests and checks of thought denied in the premises. For this means that the established habits which are the basis of the universal judgment have been developed, as Professor Baldwin has long contended, in a thoroughly social matrix. Hence we can trust the sense of consistency in the responses of these habits for a working hypothesis in the world of 'real life,'—the world in which the habits grew and to which therefore they are relevant.

To this Professor Baldwin could say that he has freely admitted that in a social pragmatism (and who has ever preached any other?) 'a strain of universality and generality is imparted to knowledge in the aspect which constitutes it public to a social group.' 'But,' he adds, 'the limitation remains that such a theory would give a logic of a stage of cognitive process, that at which pragmatic tests are transferred to the social group, rather than a philosophy of the entire movement of reality.'²

¹ *Development and Evolution*, p. 251; italics mine.

² Italics mine.

³ *The Limits of Pragmatism*, p. 51.

Now, in his *Logic*, the pragmatist does not profess to state *all* the content of 'the entire movement of reality.' The business of logic is to discuss the part thought plays *in* reality. This, of course, cannot be done without giving a general statement of one's view of the nature of reality. Hence, any logic seems bound to this extent 'to blow itself up into the dimensions of a philosophy.'¹ However, it is true that in so far as he is thus forced to state his view of reality the pragmatist confesses that the only reality he can find in which thought is playing a discoverable part is just the world of instinctive, emotional, volitional, social, 'real life,' and this he says too without prejudice to the conviction that this world of 'real life' may have in it things not dreamed of in our philosophies. And he would insist that when thought is thus placed in such a world it can claim not a mere 'strain' of universality but all it is capable of — all it can use and verify.

And elsewhere it seems to me Professor Baldwin has regarded this sort of verification as quite sufficient, not merely as a confirmation of a theory of the 'genesis' of thought, but as logical verification, — as a criterion of truth. In his effective rejoinder to Mr. Bosanquet² he says: "Genetic theory therefore explains both under what influence we have come to hold (often wrongly) certain judgments to be true and *also by what character judgments are true.*"³ To be sure this is prefaced with such statements as, "I agree with Dr. Bosanquet in confining genetic theory to questions of genesis. * * * Personally I am not a pragmatist. * * * I think pragmatism is not able as such to explain the general or universal aspects of reality." But if it is valid as a theory of genesis and if genetic theory can explain '*just by what character judgments are true,*' it has gone beyond the question of mere genesis. It is in the thick of Logic. And if truth involves universality, and if truth must be conceived in some sort of intelligible relation to reality, it is difficult to see just what there is left to be explained or interpreted by some other *kind* of metaphysic.⁴

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¹ *Ibid.*, p. 48.

² THE PSYCHOLOGICAL REVIEW, July, 1903.

³ Italics mine.

⁴ The MSS. of this article was received October 6, 1904. — ED.

A WORD OF REJOINDER TO PROFESSOR MOORE.

The reply which Professor Moore makes above, to my original criticism, allows a word of rejoinder, both from the need of clearing up the point involved, and also from his seeming to convict me out of my own mouth. The latter sort of argument would indeed prove me inconsistent, but would not in itself do much more. I shall, however, first state again the 'limitation of pragmatism' in as objective and plain a way as I can—for I feel that Professor Moore does not meet it—and then take a paragraph to vindicate my own consistency.

1. One of the 'limits of pragmatism' pointed out in my article is, looked at in a broad way, this: A statement, judgment, concept which seems to be and is accepted as being general, or universally valid—in the sense that it allows fruitful deduction and valid argumentation—can not have this value justified or positively tested, or have anything added to its import, by an appeal to cases, that is, by any pragmatic or experimental test. Such an appeal could only show that it was not universally valid, in case it does not work in the concrete¹ situation, or *that it was valid only so long as it did not fail.*² For instance, the appeal to consequences might show that two rival concepts both held good, possibly having no difference of result, through certain stages of a research, though both could not be at once logically universal. It follows, then, either that we have no such strictly logical universals, or that they must have other means of hanging together and justifying themselves than that of their experimental results. This leads unavoidably to the query whether there are strictly logical—non-experimental, in their use and value to us as now constituted—principles, rules or whatever we may call them, apparent in the organization³ of the experiences, by which these sorts of concepts, judgments, etc., have been constituted;⁴ so that their universality is *ipso facto* just a mark of their nature.

¹ Concrete in Professor Moore's meaning, if I understand it.

² It is in this sense only that it is true that all judgment is a 'development of experience through a universal'; yet I should prefer to call this meaning 'psychically general' rather than 'logically universal.' It is in this sense also that all universals, considered as generals, are hypothetical. In terms of habit, they are preliminary general meanings.

³ I cannot follow Professor Moore's difficulties in the application of the term 'organization': what I mean is any sort of cognitive construction of data—by association, imitation, etc.

⁴ Let us say, indeed, by social intercourse.

Professor Moore denies such things; but suppose we admit them: what effect does this admission have upon our instrumental theory of the origin of knowledge? As I conceive it, no effect whatever! And it is here that I find the pragmatists 'claiming the earth.' They say that a statement of origin is *ipso facto* an account of nature and validity. This is, so far as the ground given is concerned, a fallacy from several points of view. Logically it is an illegitimate conversion: they say 'all truth has been through processes of selection,' hence, by conversion, 'processes of selection are the only tests and criteria of truth.'¹ On the contrary, the possible and, I believe, the real state of things is that while all truths have their necessary origin in processes of selection, yet once come, they, like every other genetic product, are a *new mode, a new form of reality, something added to the system of things* — as James is fond of insisting — which can be understood only by seeing what it is like and what it claims to be. So when we find a logical whole that seems to be organized by intrinsic rules, and to have certain immanent relational values, and find it pursued by the sort of interest called theoretical — itself selected, no doubt, as a useful variation — what, pray, is the objection, after all is said as to the genetic aspects of it, to giving it a fair chance to stand alone on its own broad and competent bottom? Perchance if the doors be not closed and hermetically sealed to its entrance, an entirely new mode of cosmic being may steal into our mental domicile even while we are unaware! — a mode whose motto is 'objects for objects' sake.' I see no reason that a psychology should, simply because it is genetic, be able to stay the hand of an idealism of thought.²

So I think — to turn the tables on them — the pragmatists are not radical enough; they balk at the postulate of new modes, new reve-

¹ 'Pragmatic' literature is full of this fallacy: see it, *e. g.*, in another form in Bawden's exposition of James (*Jour. of Philos.*, I., 16, p. 422): "Beliefs are really rules for action, and the *whole function* of thinking is but one step in the production of habits of action." This passage was brought to my attention by C. Ladd Franklin.

² Yet to me the logical is not the final explaining category.

The ethical was put in a similar antithesis by Huxley, only 'he worked the thing the other way, finding the claim of the moral in some way inconsistent with its natural history origin. It is just this situation that instigated my theory of 'genetic modes,' which recognizes new phases of reality arising and shining at any time, and holds that the genetic conditions are not exhaustive statements of their nature and value, except to a theory which holds to a mechanical equivalence of cause and effect in such a case, and which is therefore not genetic at all, but a-genetic. On any theory of real growth a statement of conditions of origin is in no way a prophesy of all the new thing is to be like or worth.

lations in the nature and texture of reality, of a sort which do not carefully refrain from having any but hypothetical and instrumental value!

Of course they say — and here James too seems to be with the others — still these new things are proved by their working, and so alone is nature justified of her children. Again, quite true, things must work — but *ad terminum quem?* To say so much does not tell us what place this use, this function, this phase of reality has in the *tout ensemble*, the *Gesamtbild* that philosophy desiderates. Here is another illegitimate conversion: is this nature's *only* justification of her children? A parent is economically justified of his child, but is that the only justification? If we once recognize the theoretical point of view, as summing up, standing for, and organizing in short-hand, generally applicable, formulas the utilities brought up to date, why may not this be, as it proceeds through the stages of development of thought, just a really inside view of things, a private rehearsal behind the curtain suited to the contemplative eye of reason? Again, I see nothing — except illegitimate conversion — to hinder one from thinking this: the conversion, namely, from 'the thought function is instrumental to practical adjustment,' to 'therefore practical adjustment is the only end of thought.' What indeed I contend for is the 'open-door' policy; and the limitation I aim to point out applies only to a pragmatism which refuses to allow thought to conduct its business in Manchuria by its own methods and rules of work — or allows it only under a special pragmatic *visé*. This Professor James, to refer again to his fine article in the October *Mind*,¹ seems to concede in allowing Royce (and others) to 'throw his own peculiar absolute around' the pragmatic scheme; and I am only interested to say that therein he has accepted a limitation of the pragmatic method necessary by those who crave something less relative. The problem of philosophy is left open.

2. As to my personal inconsistencies, they are of little moment except as the reconciliation of the seemingly inconsistent may involve — as in this case I think it does — an attempt to reach higher ground. The passages cited from me, by Professor Moore, as allowing the pragmatic view of truth, are from my paper on 'Selective Thinking' and the subsequent discussion with Prof. Bosanquet. The general argument, in the latter discussion, is to the effect that while logic may

¹ And how it contrasts with Mr. Schiller's writing! I intentionally said little of the latter's book in any former article because of a certain æsthetic revolt which prevents my reading much of it. I am helpless before the vulgarity of such writing as Mr. Schiller's — using this adjective only after others have. I must wait until Mr. Schiller's thought is filtered by his expositors!

be allowed to have its province, dealing with wholes which have their own criteria and norms of organization, nevertheless the theory of selective thinking must account for the origin and establishment of all possible marks of such logical wholes, including these criteria and norms.¹ This I maintain in opposition to the view that there is something in the logical so far exempt from selective processes, and so far 'pure' in character, as not to allow of any experimental or instrumental method of establishment.

It is, I freely admit, a rather negative sort of task to attempt to ward off trespassers from both confines of a single plot at one and the same time; but there is more at stake in my own case than the checking of trespassers upon a given territory. In the paper on 'Selective Thinking' it is maintained that there are two tests—to keep to the old terms²—of a truth: that of the 'platform' of what is already established, the test of habit; and after that the further 'test of fact.' Prof. Moore seems to think that I am now not holding to this scheme. But in the test of habit—integration in a previously established body of knowledge—it is just in this that the logical as such gets in its criteria, making its demands of consistency, etc. Without this a new item can not get that preliminary *exequatur* which is necessary to any intelligible application of the other test, that of fact. No hypothesis, even of the most inductive sort, can be brought to the bar of fact without first meeting the demands of consistency and inherent reasonableness. And although we hold, as indeed I do, that this antecedent 'platform' has been itself constituted by gradual selections, still, once come, its rules must be taken for what they really are, even though we have to call them by the old-fashioned term 'laws of thought.'

And the issue will be sharpened when I further say, in answer to Professor Moore's charge that I desert the 'test of fact' in certain cases, *that I do!*—not desert it, indeed, but simply recognize that it is not in actual operation. The whole body of sciences of 'abstract relationships,' the deductive and mathematical sciences, dispense with such a test: they reach results which we still have to call truths and reach them just by allowing the claim of true logical universality.³ Without attempting a positive evaluation of such bodies of science, still it

¹ That is, 'genetic theory explains by what character judgments are true'—a sentence which I do not find inconsistent with the 'limit' now set up, as Professor Moore seems to.

² Although, functionally considered, some of the terms suggested by Professor Moore are no doubt better.

³ See for example Professor Keyser's formulation of the 'Axiom of Infinity' (*Hibbert Journal*, April, 1904) and the whole literature of the 'new' infinite.

will not do to cut them off with the indirect sort of toleration due to by-products of a function which is in other conditions useful.

I hold in short that something further in the way of constructive interpretation of the *entire developmental situation* is needed. And the cue should be taken just from the further progress of reflection in actually handling the dualism of thought and action. This is the positive problem before us. And in approaching it I find place for the conception of genetic modes. The test of fact operates in the practical mode, while that of the truth-system invokes the logical mode. I would fain see this recognized before we admit that development lands us in a *cul de sac* for theory, while in life we find no final opposition. And it then remains to find the still more developed psychic mode in which the claims of both are adjusted without favor. I think in the 'semblant' or play mode — broadly and richly defined, *the aesthetic* — this sort of reconciliation actually does take place as a real experience. Instead of reading-back the genetic line and finding neutrality in 'pure experience,' so protoplasmic that the distinction of conscious and non-conscious itself seems to disappear — a reading in which for other purposes one may concur — I am compelled to read the other way, up the genetic line to the fruitful top. The realest experience, the true universal, is one that not only 'secures us God, freedom, and immortality,' but also 'bakes our bread.' So much at any rate in justification of a line of thought which has the appearance of facing two ways at once. I have elsewhere attempted to justify this method from genetic considerations ('Mind and Body,' *Psych. Rev.*, May, 1903).

I cannot here take space to notice certain interesting points of detail in Prof. Moore's article. But these I note: my expression 'transcends real life' means only having meaning not exhausted by any real situation (as the ethical rule of 'right,' or the general concept of 'horse'). — As to 'nominalism,' my sense of its pertinent application to habit theories of the 'general' as such is sharpened by a discussion of my own view on the subject (in *Mental Development*) by M. Havard of Paris, under the term 'nouveau nominalisme.' — As to 'flawless thinking,' I cannot define it without invoking just the sort of criteria we are discussing — it is 'logical,' 'consistent,' 'valid' thinking; not merely comfortable psychic process! It *is* comfortable, and it *is* social and pragmatic in origin, *but* — Ah! there's the rub of conversion again — is it more? Mr. Peirce's remarks on 'reasonableness,' apropos of pragmatism, are interesting in this connection (*Dict. of Philos.*, 'Pragmatism'). — Why need a system of ab-

stract universals — a deductive science, in short — be merely a 'subjective and atomistic affair' as Prof. Moore claims? 'Twould be so, I conceive, only to a theory that is already subjective and atomistic; not to one that has a critique of the various sorts of reality-coefficients leading up to the 'general.'

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PSYCHOLOGICAL LITERATURE.

The Groundwork of Psychology. G. F. STOUT. University Tutorial Press, 1903. Hinds & Noble. Pp. vii + 248.

'The aim of this book is to present a general view of mental process and mental development which shall be comprehensive and yet not vague and sketchy' (p. iii). The author has written an elementary treatise which cannot be regarded as a mere abridgement of his larger works, a treatise to be put into the hands of beginning students in high schools and colleges and into the hands of busy men and women everywhere who desire a first comprehensive view of the subject. Such a book should be above all clear, and this is one of the clearest treatments of this subject in existence. It should be rich in well-chosen illustrative facts, and with these the book fairly teems. It should be as free as possible from technical language, and the author, without sacrificing exactness of statement, is in this respect remarkably successful. The treatment is systematic and progressive: it sets forth, with a thoroughness somewhat too great for its meagre size, an in the main true view of mental life. Indeed, so much praise has been deservedly heaped upon the book that one is at a loss to know where to stop. Among other things and in addition to the advantages already mentioned the discussions are so handled as to make them when taken together an introduction to logic and the philosophy of mental process. Moreover the doctrine of the author is in close harmony with certain recent biological conceptions which seem destined to have influence upon the psychology of the future. The method of the book is both analytic and genetic, and the author's great interest in problems of mental growth and of mental training is evident in every chapter. It is a good book for teachers. In nearly every respect it is an admirable treatise. It is inexpensively bound, the American edition having wider margins than the English one.

It would be superfluous to try in this connection to review the doctrine of the work, as that is so well known, in its main features, from the author's other writings. It divides mental processes into cognition and interest, subdividing the former into simple apprehension and judgment and the latter into conation and feeling attitude. The selective part played by conation in the development of particular cognitions and of the mind as a whole is emphasized. A feature of the discussion is a clear and simple presentation of the part played by

society, social intercourse and language in the consciousness of self, in the construction of our ideas of the external world and in the thought of a real world. No other elementary work known to me compares with this one in its suggestiveness on these points.

But as an elementary text-book this one leaves something to be desired. Many teachers of beginning classes, after reading it, will find themselves leaving their way back through the book and asking the question, 'why not?' At least, this is the fear of the present writer. One wishes the same conceptions, distinctions and discussions had been presented in 478 pages instead of 239, with more play of fancy to throw certain things into relief. We should offer the subject with more perspective to the view of the student. Beginning students need room to roam about without losing sight of certain important landmarks. They will never get lost in this book, but they may fail to appreciate the wide reach of the subject. Miss Calkins' *Introduction* and James' *Briefer Course*, although lacking many of the merits of this treatise, are both superior to it in this matter of style. One suspects that they would interest a boy or girl where this book might fail to do so. In the hands of a good teacher, however, this difficulty arising from brevity can be overcome.

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FEELING AND EMOTION.

Travail et Plaisir. CH. FÉRÉ. Paris, Félix Alcan. 1904. Pp. 476.

In this volume Dr. Féré presents us with the most extensive series of studies of the influences which affect the capacity for work that has so far appeared. The method used throughout was to compare the work, measured by the ergograph of Mosso, under normal conditions with that accomplished when the conditions were varied in what seems to be every possible way. The author was the subject throughout.

The investigations cover so many different facts that it will be impossible to touch upon more than the most important in the review. Many of the results have also been published separately but are scattered through journals so little likely to come under the notice of psychologists that their previous publication will not diminish the value of the present volume.

The first subject that is investigated is the influence of rhythm upon work. It was found that most work could be done with a slow rhythm but that the increased fatigue makes the slower rate less advantageous than it seems to be at first sight. Change of rhythm during work

always produced a momentary excitement that was beneficial, but when the change was to a quicker the after-effects more than overcame the initial benefit.

There are several factors which have not been recognized generally as having an effect upon work which Féré finds to be most important. Among these are the application of heat to the scalp, which the author thinks has a direct effect upon the cerebral motor centers. This he substantiates by showing that the effect upon the right medius when hot water is applied to the left parietal region is much more marked than when the application is made to the right side.

All the special senses are investigated and it seems that stimulation of any sense has either a depressing or an exciting effect according to the quality of the stimulus. The influence of colors is very complicated. It is found that red is most exciting at the beginning but loses its effect very quickly; orange and yellow have a persistent exciting effect, green is moderately exciting and its action is more marked the more it is prolonged, blue and violet have a depressing action but serve to check fatigue. The most surprising fact in connection with these results is that they should be so marked. The changes in capacity frequently amount to an increase of 100 per cent. or more.

Another series of results which it seems very hard to explain is that contact with different substances, metals or woods, has a marked influence upon the amount of work. Aluminum and silver have twice as much effect as gold. While contact with 3 sq. cm. magnesium increases the momentary capacity for work nearly forty-fold, contact with glass diminishes it 30 per cent.

The Scotchman's retort to Dr. Johnson is abundantly supported by Féré. He finds that the capacity for work is increased 30.67 per cent. by the mastication of 5 grammes of wheat, while it is increased 101.56 per cent. by the mastication of an equal quantity of oats!

The magnet, too, has a marked effect upon the capacity for work. An ordinary bar magnet suspended in the neighborhood of the arm will markedly increase the work done during a rested condition and equally decrease it during a state of fatigue. The variations are always considerable, from 20 to 100 per cent.

A long series of experiments was devoted to the influence of various nervous poisons upon work. In practically every case it was found that narcotics had a first effect in exciting to greater activity and that this was followed later by diminished activity. In every case, too, the total effect was a loss of capacity. Ether, antipyrine, coffee, alcohol, tobacco, all show the same effect in different degrees.

Féré insists that in all cases the original exciting effect is at the basis of the pleasure which is obtained from them, and that the painful after-effects are forgotten.

Among the interesting more general facts that come out in the later chapters is new proof that mental fatigue and bodily are of the same kind. While the minor relations may differ, yet complete repose furnished the only means of recovering from either.

Less convincing to the reviewer seem his conclusions that there is a relative independence between the two hemispheres. This conclusion rests upon two classes of facts — that unilateral stimulation has greater effect upon movements of the same side, and secondly, that in alternate work with the two hands there is frequently an increase in the capacity for work on one side accompanying decrease on the other.

The conditions under which ergographic work must be done are so different from time to time and the likelihood of suggestion is so great that the acceptance of any complicated interpretation, even of such definite figures as we are given here, does not follow as a matter of course until corroborated by frequent repetition and confirmed by evidence of other kinds.

The author, however, defends himself in his introduction in the statement: "The risk of giving proof that one is not infallible is not, for a sincere experimenter, a sufficient reason for suppressing observations whose publication can at least serve to incite control experiments." Accepted in this light one can be very thankful to Dr. Féré for the results of an enormous amount of painstaking labor. It is only fair to say that the reviewer has in the main selected for mention those results that seemed to him most open to question and has passed over in silence many chapters that seem little open to criticism.

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La logique des sentiments. TH. RIBOT. *Revue Philosophique*, LVII., 587-611; LVIII., 38-71. June and July, 1904.

The subject of these articles is not at all that which Urban has treated of under the title, 'Logic of the Emotions' (this REVIEW, VIII., 262), namely, the immanent process whereby emotions become generalized (cf. Elsenhans, *Ueber Verallgemeinerung der Gefühle*, noticed above, VIII., 310). By the 'logic of the sentiments' and 'affective' or 'emotional' logic, Ribot understands the processes whereby conclusions are reached in the mental life under the controlling influence of subjective interests. It is opposed to 'rational'

or 'objective' logic, that is, processes of reasoning controlled by objective experience. All logical processes are emotional in their origin; later, however, objective forms of reasoning are differentiated. But emotional logic persists because subjective needs persist which objective logic cannot satisfy. In intellectual reasoning the emotional coefficient, even if it exists, is a negligible factor; in affective reasoning it is the determinative factor, the intellectual element serving only to give fixity to the natural fluidity of the sentiment.

The constituent matter, or terms, of emotional reasoning consists of concepts or judgments of value (= values), varying according to the sentiment and will of the individual. The matter of this logic is, therefore, the subjective judgment, which the reasoner, by an illusion, converts into an objective judgment and generalizes. It has two main types, according as the point of departure is (*a*) a desire which it seeks to satisfy, or (*b*) a belief which it seeks to justify. There are besides a number of subordinate types. But in all cases the reasoning is controlled by the principle of finality. What is sought is not truth, but a practical result. And the principal methods of attaining this result are (*a*) the accumulation of terms appropriate to suggest or justify the conclusion, and (*b*) the more calculated arrangement (gradation) of the means adapted to produce conviction. In either case the method is rather one of synthesis than, as in 'rational' reasoning, of analysis. Such reasoning is not confined to words, nor is it subject to the law of contradiction.

Ribot illustrates these general views by a more special consideration and illustration of the five principal types of affective reasoning which form his provisional classification, namely, the *passional*, the *unconsciousness*, the *imaginative*, the *justificative* and the *mixed*. The *passional* type (passion = emotion, persistent and obsessive) is the simplest, and only differs from association of ideas in the selective character of the end. Here we have, for example, the reasoning of timidity, of certain forms of love and of jealousy. What Ribot calls unconscious reasoning is illustrated by conversions and by the transformation of one emotion into another of an apparently different kind. Numerous examples are given. The term 'unconscious reasoning,' it should be observed, is used without prejudice to the question as to the actual status of the unconscious; the phenomena are studied *as if* the activity producing them were really reducible to judgment and reasoning. *Imaginative* reasoning is the most complete and frequent type of emotional reasoning. It uses imaginative construction to establish truth, and it is guided and controlled by the affec-

tive state of the reasoner. Illustrations: beliefs, ideas and conclusions relative to the future life; divination as a means of ascertaining the future; magic. The reasoning of justification used to justify a belief that refuses to be disturbed is the most childish type of, affective logic. A related form is the reasoning of consolation employed to comfort the afflicted. Finally, in mixed or composite reasoning we have an approach to the rational type; only here too, while rational concatenation is demanded, emotion is used as a means to action and as a process in the argument. It is the reasoning of special pleading; its type is found in eloquence and its methods of procedure in this reference have long been formulated in the text-books of rhetoric. These various forms of affective reasoning reduce in the end to two types; in the one they serve for the conservation, in the other for the expansion of the individual life. To the first type belong the passive forms of passional reasoning (*e. g.*, in timidity), and the reasonings of justification (defence against the unsettlement of belief) and of consolation (attempt at a *restitutio in integrum*). To the second belong the active forms of passional reasoning (*e. g.*, in love), the latent operations that produce conversions and emotional transformations, the imaginative attempts to divine the future, and all the various shades of persuasive pleading.

Ribot promises to discuss other points connected with this subject in a special work. Meanwhile he has given us an interesting and valuable, if not altogether novel, chapter in the psychology of belief. The facts would seem to be, in the main, already fairly familiar; the novelty of the present treatment lies in the point of view. And here it may seem that the term 'reasoning' has to be unduly extended when it is used to include not only the so-called reasoning of justification and the mixed type, but also the selective associations of the passional type and such ambiguous processes as those which subserve the work of conversion and the metamorphosis of an emotion. Boole's definition of reasoning, which Ribot quotes to justify his use of the term, namely, that it is the elimination of the middle term in a system having three terms, might be applied, unless further interpreted, to the development of a plant; while if all processes mediating a result experienced as a tendency to an end are to be called ratiocinative, ratiocination will be the prevailing method of the mental life in its entirety. But perhaps a more important criticism is that it seems impossible at the present day to make the absolute distinction which Ribot appears to make between the two sorts of logic, as though 'rational' logic dealt only with truth separated from all taint of sub-

jective interest and 'values,' and 'affective' logic, dealing with the latter, were in no degree an instrument of truth. The theory of values has not, to be sure, reached a final and generally accepted form; but it seems clear—the whole present discussion of 'pragmatism' is in evidence—that no absolute opposition can be established between descriptions and appreciations, values and truth, the subjective and objective factors in cognition, cognitions, interests and beliefs. However, it is undeniable that these distinctions, even if not absolute, have important relative value, and an attempt like the present to arrange and classify the instances in which the subjective factor is the predominantly determining factor in the production of our human convictions, is worthy of recognition.

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The Plethysmographic Evidence for the Tridimensional Theory of Feeling. H. C. STEVENS. Amer. J. of Psych., 1903, XIV., 13-20.

The purpose of this paper is to show that Wundt has not succeeded in drawing from the curves of Lehmann's Atlas any valid evidence in support of the tridimensional theory of feelings. The various curves to which Wundt appeals are referred to in detail, and Wundt's use of the introspective evidences from Lehmann's subjects is criticised, and his statements in regard to the curves are characterized as inaccurate.

The functions of a review hardly extend to the limits of a reëxamination of both positions in dispute. The present reviewer has, however, made some examination of the curves in question and he has been impressed with the difficulty of gathering either positive or negative evidence relating to this particular theory of the feelings from curves which were secured under conditions not arranged to test the specific questions raised by the theory. If Wundt is to be allowed to select certain parts of the curves, he can make good many of his contentions. If, on the other hand, he is forced to consider equally the unfavorable as well as the favorable parts, he will undoubtedly have a tangled mass of complexities to deal with. It is not unlikely that Wundt would admit this general difficulty, and it is not impossible that the writer of this article has been absorbed in the unfavorable portions of Lehmann's curves quite as much as Wundt has been in the favorable portions.

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BELIEF AND JUDGMENT.

Psychologie de la croyance en l'immortalité. C.-J. WIJNAENDTS
FRANCKEN. *Revue Philosophique*, LVI., 272-282.

This article is a psycho-genetic study of the belief in personal immortality. This belief may be either psychologico-philosophic in character, or it may be purely religious. Three chief sources for it are pointed out: first, the passion for life; second, the power of the imagination as manifested in dreams; and third, the so-called moral motive. Of these three sources the first is by far the most important. 'The need of personal preservation,' writes the author, 'is one of our strongest instincts; it even crosses the tomb — for the desire for immortality is only one form of manifestation of the search for personal preservation.'

A comparative study of religions reveals the fact that the belief in immortality seems unable to maintain itself upon purely philosophical or ethical considerations, but requires some affective impetus as an essential condition of its existence. It is prevalent only where there exists a strong *desire* to continue one's personal existence after death. Desire and hope, however, although they form the principal source of the belief in immortality, do not constitute its sole ground. Phenomena of the nature of dreams may very readily give rise to the conception of a soul existing independently of the body and surviving bodily death.

The third motive of the belief in immortality is what the author terms the *moral* motive. As moral retribution is obviously not perfect in this life, the moral sense saves itself by taking refuge in the postulate of a future life in which the demands of justice will be satisfied. This hope of remuneration in a future life is not a purely egoistic sentiment; it is simply an application of the law of causality to the moral sphere, and is for many persons a postulate of their moral mode of conceiving the universe. To this is sometimes added another moral motive, the desire for moral perfection. We have now no longer desire for mere continued existence of almost any kind, but desire primarily for a life in which there will be possible a realization of the moral ideal.

Belief in immortality is closely allied to the belief in God, and in some cases the two seem to be mutually interdependent. This is natural, as they are both found to have arisen from the same ultimate sources.

The paper is interesting chiefly as an illustration of the increasing

tendency among psychologists to discover in the will to live the efficient cause of religious manifestations.

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La logique et l'expérience. FÉLIX LE DANTEC. *Revue Philosophique*, Janvier, 1904.

Biology, from its deterministic and evolutionary point of view, regards the laws of thought as the hereditary résumé of ancestral experience, during thousands of years of rubbing against the external world. It is infinitely probable, thanks to natural selection, that thought is adequate to the phenomena which have met our ancestors; but we cannot attribute to it any absolute validity. This view is in opposition to such as that of Poincaré, who, in *La Science et l'Hypothèse*, speaks of the mind as of a tool of a superior sort, with laws of functioning absolute and invariable. The difference between the two views is clearly seen in relation to the group of questions associated with non-Euclidean geometry. Poincaré grants here to experience that it guides the mind to the 'most advantageous' among many 'conventions' of its free activity; but, consonant with this free activity, he holds to an inner core of principles of thought which are absolute. But he cannot justify his distinction between an empirical and an *a priori* part in geometry. In another world, our logic would be different, as would also the so-called conventions in regard to space.

The character of our sense-knowledge is to be inferred from the very principle of natural selection — it does not deceive, but it is not of the absolute essence of things; it is relative to the preservation of life. It is from experience of this sort, not from that of scientific knowledge, that the laws of thought have been built up. We have gained the so-called ideal conceptions of geometry just because of the imperfection of our means of personal observation. The surface of a lake seems a plane; the tiles of a house, forming irregular lines to close observation, appear at some distance to make perfectly straight parallels.

The article is of interest in relation to the recent English and American discussions along pragmatic lines.

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The Disjunctive Judgment. G. R. T. ROSS. *Mind*, 1903, N. S., XII., 498-501.

The disjunctive judgment in the form *A* is either *B* or *C*, is used in many cases where *B* and *C* are related, but by no means mutually

exclusive. The fact that judgments in this form are often used in science as though they were exclusive, depends upon certain material considerations rather than upon purely formal considerations. When scientific effort has gone far enough to establish two species *B* and *C* for purposes of classification, these two species are exclusive only to the extent to which the particular science has established their separateness in making up the species. If the classification is complete, minute and exhaustive, then the disjunctive form of statement has value as a statement of a complete separation among the classified facts. If, on the other hand, the classification is incomplete, then the predicate in the form either *B* or *C*, will have all of the indefiniteness of the classification and to use it as exclusive will lead to fallacies.

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On Time Judgment. BEATRICE EDGELL. Amer. Journal of Psychology, XIV., 418-438, July-October, 1903.

This paper reports some experiments performed in the Physiological Laboratory of London University during 1902-03. The questions to be answered are: (1) What 'filled' period of Time can be most accurately estimated, and (2) when two filled periods of different duration are given, is the duration of the period which is estimated as midway between them, the arithmetic or geometric mean of the two periods?

The method used was that of the 'Average error' or 'Reproduction.' The subject seated in a silent room heard a sound from a telephone receiver produced by induction currents at the rate of 50 per sec. in an adjoining room. The primary circuit could be made automatically by the kymograph contacts or by pressure on a key in the hands of the subject. A Pfeil marker inserted in the primary circuit was the means of recording the duration of the sound produced. Specimen records and curves of results are given.

The results show: (1) There is no agreement among the three subjects as to the period most favorable for estimation; but it was found that periods greater than the most favorable for each individual were *under*-estimated and those shorter were *over*-estimated. (2) The estimated mean in general, approaches more nearly the Arithmetic than the Geometric mean; but where the Geometric mean lies near the most favorable period, or the ratio between the two intervals is very small, it approaches the Geometric mean.

The author would account for the results in this way: For short intervals the attention is given up wholly to the sensation, no other sen-

sations with which to compare the estimate of duration are present in consciousness, consequently they are given more value, that is over-estimated; when the interval is long, the attention is not held at a maximum during the whole period, and the comparison with the duration of other processes gives this a relative unimportant position, so it may be underestimated.

Since these results fail to agree with Weber's Law, the author would hold that Ebbinghaus's system of measurement fails to have validity for any aspect of sensation.

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Alcuni schiarimenti intorno alla natura del conoscere, del volere, della coscienza e della percezione. F. BONATELLI. *Rivista Filosofica*, VI., Nos. 1 and 2, 1903.

A paper by James Lindsay on 'Italian Philosophy in the Nineteenth Century' with special reference to the place of Francesco Bonatelli¹ suggests to Bonatelli to restate four points of his doctrine. The first of these is the 'infinite reflexion of thought upon itself.' Every judgment is, Bonatelli holds, an affirmation. The proposition, *A* is *B*, means: 'The judgment, *A* is *B*, is true.' But this new judgment is also true, and thus is fully expressed only by the proposition: 'The judgment which affirms the truth of the judgment, *A* is *B*, is true. *Et sic in infinitum.*' But because an infinite number of explicit judgments is impossible, or at least incomputable in a finite time, it follows either that every judgment is false (an alternative which Bonatelli does not seriously consider), or that 'the judgments which affirm the truth of the first judgment are really infinite but implicit.'²

The writer of this notice finds in the statement of this problem a needless subtlety. The infinite regress which puzzles Bonatelli, to the point of explaining it by the vague contrast between explicit and implicit, is an abstractly possible, not an inevitable, regress. In other words, an affirmation allows, but does not require, to be itself affirmed. Incidentally, it may be noted that Bonatelli really recognizes two features in the judgment: a union of parts in a whole, expressed in the formula, *A* is *B*, as well as the affirmation stated in the words, It is true.

In a parallel way, Bonatelli considers, second, 'the infinite reflection of will.' As '*A* is *B*' was held to imply, 'I affirm that *A* is *B*'; so 'I will *F*' is interpreted to mean 'I will to will *F*.' The

¹ *Proceedings of the Aristotelian Society*, N. S., I, 1901.

² *Rivista*, VI., I, p. 5.

ground of this interpretation is stated in the following way: "A * * * volition will proceed either from another volition or from a principle, an activity of some sort, which is not another volition."¹ But if it proceed from anything other than another volition, it will not itself be a volition, and so to will *F* is to will to will *F*. Evidently another endless regress is here involved; and to avoid its contradiction Bonatelli concludes: "My volition of *F*, to be real, * * * contains implicitly this other volition, I will to will *F* and so on to infinity."²

Here Bonatelli seems to confuse two views of volition; the phenomenal view, which regards volition as a caused idea, with the contrasted doctrine which treats of the will as an active experience of a self. From the former point of view there is no reason why the idea, whose relation to the succeeding idea marks it out as a volition, should not depend on a principle other than volition. From the latter standpoint, it is meaningless to speak of will as dependent on anything which precedes, for it is, rather, an experience which must be defined without reference to time.³

Bonatelli's third teaching concerns nomenclature only. He urges the advantage of restricting the term consciousness (*coscienza*) so that it shall not apply to every conscious phenomenon (*fatto psichico*), but shall rather indicate the reflective consciousness expressed in a judgment. The greatest obstacle to this procedure is the ambiguity of the expression 'psychic fact,' suggested as alternative for the word 'consciousness,' in its wider sense.

Bonatelli's doctrine of perception finally turns out to be a form of 'tempered realism.' He analyzes perception into (*a*) sensation; (*b*) associated imagination; (*c*) other elements, for example, the categories of substance, quality, etc., known to intelligence only; and finally (*d*) 'the immediate and spontaneous persuasion that there exists a real, * * * independent of us.'⁴ He then assumes that corresponding to this persuasion of the reality of independent bodies, existing for themselves, there actually exist bodies independent of us. He rightly calls this doctrine a form of realism, and justly dissents from the statement of Lindsay: "Bonatelli seems to steer his way between the Scylla of a purely idealistic view and the Charybdis of a dualistic realism."⁵ But so far as the present writer sees, Bonatelli justifies this realistic

¹ *Ibid.*, p. 5.

² *Ibid.*, p. 8.

³ On this distinction, cf. Münsterberg's *Grundzüge*, Kap. II., 2, and III., and the present writer's *Introduction to Psychology*, c. XXI.

⁴ *Riv. Fil.*, VI., 2, p. 194.

⁵ Quoted, p. 196.

doctrine simply by opposing it to a caricature of idealism. If idealism were, as Bonatelli believes,¹ the doctrine that 'neither nerves nor brain exist' and that 'space, time and motion have not complete reality,' then indeed he would have reason to reject it without argument. But, as a matter of fact, idealists, from Berkeley on, have insisted that 'whatever we see, feel, hear, or in anywise conceive * * * is as real as ever,' and that 'every vegetable, star, mineral * * * is as much a real being' by idealistic principles as by any other. Bonatelli has no right to ignore this claim of the idealists in setting forth his very naïve form of realism.

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INSTINCT.

La faculté d'orientation lointaine (Sens de direction — sens du retour). Ed. CLAPARÈDE. Archives de Psychologie, II., 133-180.

In this article M. Claparède discusses the sense of direction with special regard to the sense as manifested in migrating birds when they determine the direction of places at great distances. An outline of the theories which have been offered as explanations of the phenomena and which the author discusses in detail, may be tabulated as follows:

1. Magnetism (Viguire, Caustier?).
2. Currents of atmosphere, wind, etc. (Toussenel, Ziegler?).
3. Direction of the sun or of other light (Romanes, Lubbock, Wasmann).
4. Special power (Faber; purely reflex action — Netter, Bethe).
5. Record of ways (Enregistrement des détours: Darwin, L. Morgan; *contre-pied* — Reynaud, P. Bonnier).
6. *Points de repère*, memory of topography (Wallace, Romanes, Lubbock, Forel, Fabre, Wasmann, Yung, Bouvier, Marchal, Marchand, Buttet-Reepen, Peckam, Rodenbach, Ziegler).
7. Direct perception of the destination (Hachet-Souplet; Telepathy — Duchâtel).
8. Complex phenomena depending upon intelligence (Cyon).
9. Hereditary topographic memory (Kingsley, Parker and Newton).

The first theory holds that birds when migrating judge the direction by 'perceiving' currents of terrestrial magnetism; the second, that they judge by the winds, temperature, and humidity of the atmosphere; the third, that they determine the direction with reference to

¹ *Ibid.*, p. 204.

the sun; the fourth, that they follow a sort of natural attraction purely reflex in its origin; the fifth, that they follow natural landmarks, turns and curves, each generation either learning them for themselves or by following the older birds; the sixth, somewhat similar to the preceding theory, that birds determine all directions with reference to their haunts; the seventh, that the birds see (receive telepathic impressions of) their destination even at great distances and go directly to it; the eighth, that orientation is an act of intelligence in which sensations from the semi-circular canals and from the face, and the memory of locality are very important factors; the ninth, that memory of routes is inherited no matter what the means.

The author outlines his conception of the problem as follows:

Destination	Known	{ I. Perceptible. Not perceptible	{ II. Points de repère. III. No points de repère.
	Unknown	{ IV. Perceptible. Not perceptible	{ V. Intermediaries. VI. No intermediaries.

Cases I. and IV. depend upon association (visual, motor, tactual, etc.). Case II. may be explained by memory of localities. Case V. is very closely related to Case IV., for each intermediary determines the direction of movement to the next, and so on, until the end, unknown at first, is reached. "Each step determines the direction of the one following." Cases III. and IV. are really the problems in the investigation of the phenomenon of orientation. To explain these, however, it is not necessary to accept such special hypotheses as those of magnetism, unknown force, telepathy, etc.

"There is no reason for holding an exclusive theory, for it is probable that an animal, just as we ourselves do, utilizes every possible means to find his way." That is, he judges his directions by the direction of the sun, by the topography, and perhaps in some cases is aided by the wind and especially by temperature. A bibliography is given.

Le Sens du Retour. P. BONNIER. *Revue Philosophique*, LVI., 30-50.

After a criticism and rejection of all theories which involve a new sense or mysterious means, and a statement of historical examples, the author states his theory, which he calls the 'sense of attitudes.' The sense of attitudes is the sense which 'defines to us the place of each part of ourself.' This theory does not pretend to supplant those of active touch, muscle sense, etc.; it is the '*commun dénominateur*' of all these very complex operations.'

It is common to all animals, including man. The center for this sense is the sensory center for the vestibular nerve. From this sense arises a racial memory which appears in the individual as a deferred instinct, and upon it, in coördination with all the spacial senses, all movements which relate to locomotion depend.

We should distinguish between guidance by destination and guidance from the point of departure. The sense of attitudes has relation to the latter and not to the former.

L. V. BEAULIEU.

UNIVERSITY OF IOWA.

VISION.

Ueber die Wahrnehmung des Flimmerns durch normale und durch total farbenblinde Personen. J. v. KRIES. Zeitsch. f. Psych. u. Phys. der Sinnesorgane, XXXII., 113.

In view of the fact that Schatarnikoff has shown that the rods possess a less sensibility for periodic changes of light than the cones, the author asks his colleague Uhthoff who has access to persons completely color blind to determine whether flickering upon rotating discs ceases for them with a slower rate of rotation than for normal persons. After testing a number of subjects, he decides that it does. It ceases with a light change of twenty per second. This harmonizes perfectly with his own theory of the function of the rods.

Ueber die Abhängigkeit des Reizwertes leuchtender Objecte von ihrer Flächen- bezw. Winkelgrösse. PIPER. Zeitsch. f. Psych. u. Physiol. d. Sinnesorgane, XXXII., 98.

The author investigates the differences that may arise in the perception of objects when the eye is adapted to bright light and to dark light. After giving a short history of previous experiments, he begins the investigation for the dark-adapted eye. The conclusion here is that the stimulus value of an object for the dark-adapted retinal periphery increases proportionally to the square root of the area of the retinal picture. The influence of the size of the object upon its stimulus value for the bright-adapted retinal periphery must be regarded as minimal. The sensation of brightness changes almost exclusively with changes in light intensity upon a bright-adapted retinal periphery. The value of the results here communicated for the von Kries color theory are pointed out.

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HEARING.

Die Empfindlichkeit des Ohres. H. ZWAARDEMAKER. Zeits. f. Psy., 1903, XXXIII., 401-423.

The author begins by estimating at 540,000 and 24,000 ergs respectively the amounts of energy necessary to produce the upper and lower limits of the audible scale, taken as f^1 and E^2 . For a tone midway between these two his estimate is .0138 ergs. These figures refer to the quantity of energy used per second by a tuning-fork in producing minimum perceptible sensation when the ear is 5 cm. from the source of sound and perpendicular to the plane of vibration. They do not show how much energy actually reaches the ear.

A table is given showing the amounts of energy corresponding to various notes, as calculated by Töpler and Boltzmann, Rayleigh, Wead, Zwaardemaker and Quix, and Wien. The values found by these different experimenters agree fairly well, with the exception of Wien's, which are extraordinarily low. The author attributes this to Wien's erroneous method of observation. Another table compares values for c 's and g 's from c to g^6 as found by Wien and by Zwaardemaker and Quix.

In the second part of the paper the course of the sound-waves in the ear is traced. Three transmissions of energy occur: (1) From the air to the tympanic membrane and the bones of the middle ear; (2) from the stapes to the liquid of the labyrinth; (3) from the liquid of the labyrinth to the basilar membrane. Supposing the loss each time to be the same as that in the transmission of sound-waves from a tuning-fork to the air, the energy finally reaching the hair-cells would be of the order 10^{-12} ergs. The real value probably lies between this and 10^{-8} ergs.

Weitere Untersuchungen über die Schallleitung im Schädel. HUGO FREY. Zeitsch. f. Psy., 1903, XXXIII., 355-362.

Three experiments are recorded in this article. The first two were planned to answer the question: Does the transmission of sound from one ear to the other depend on a specific action of the pyramids, or is it a phenomenon which appears whenever sound-waves are sent out from an arbitrarily chosen point on the skull? The third experiment was an attempt to find out more exactly the course of the sound-waves in the bony substance of the skull.

In all three the same general procedure was followed: a tuning-fork was screwed into a skull and then set vibrating; the sound-waves were taken up at another point on the surface of the skull by a micro-

phone, and transmitted to a telephone. The intensity of the sound was measured by the time elapsing from its beginning until it ceased to be audible.

In the first experiment the tuning-fork was screwed into the left pyramid; in the second, into the occipital bone, in a line with the mesial suture and a little below it. In both cases a number of points were tested with the microphone. It was found that a sound originating in the back of the head, as well as one originating in a pyramid, produces maximum vibration at a point diametrically opposite. The sound is weakest in the plane passed through the middle of the skull perpendicular to the direction of the stimulus. As this phenomenon appears in the most different directions, the pyramids cannot be considered essential in producing it, though the influence of their mass must not be wholly disregarded.

The third experiment bore on local conditions of vibration in the skull. Three circular openings were cut at points already tested. In one of these the microphone pencil was adjusted, within the opening, and parallel to the surface of the skull. The point of contact varied from that nearest the source of sound to that farthest from it; points between were also tested. The tuning-fork was screwed into the left pyramid.

The intensities observed for the different points of contact were almost identical with each other and with that obtained when the microphone pencil was set up very close to the opening, on the surface of the skull. This was true of each of the openings. Hence it appears that if a transverse section be made at a given point on the surface of the skull, and points of the section tested, the sound intensities thus observed will be identical with the intensity in the direction perpendicular to the surface.

MILDRED FOCHT.

BRYN MAWR COLLEGE.

Differenztöne und Konsonanz. FELIX KRÜGER. Archiv f. d. Gesamte Psychologie, 1903, I., 205-275; II., 1-80.

The author begins with a very lucid criticism of the theories of consonance by Helmholtz, Lipps, and Stumpf, devoting much space to a discussion of the Lippsian doctrine of the 'unconscious,' but rejecting this term altogether. In a second chapter he distinguishes in a preliminary way the chief contents of the experience of consonance, its sensational characteristics, the judgments concerning these characteristics, and the accompanying feelings. He then enters into a detailed discussion of all the different ways in which difference tones

seem to him to determine, or at least to influence the experience of consonance and dissonance. He describes the somewhat vague theory of Preyer according to which consonance and dissonance depend chiefly on the difference tones of tone combinations, and undertakes to study the phenomena in question more in detail in order to find out to what extent Preyer's suggestions can be regarded as valuable. His most important observations are the following: A slightly mistuned unison is not less agreeable than an absolutely correct unison. The former may, indeed, under particular conditions of the hearer, be more pleasant than the latter. A considerably mistuned unison, however, is very unpleasant because the number of tones heard simultaneously is usually quite large, and these tones beat with each other in the most irregular manner. If we increase the objective interval further until we reach a slightly mistuned consonance, the number of subjective tones decreases because of 'overlapping' of some of the subjective tones. In passing hence to the just interval, the number of the subjective tones and the fluttering of the compound sound caused by them decreases very rapidly. This decrease observable in passing from a slightly mistuned to a just interval is the more conspicuous the higher the degree of consonance (as: octave, fifth, etc.) of the tone combination. The author therefore reaches the conclusion that consonances are distinguished from dissonances in two ways: first, by their comparative simplicity of composition, *i. e.*, the small number of subjective tones of which the total impression is made up, and second, by the clearness with which they appear to the hearer because of the small number of different tones heard when the interval is just and the comparatively slight fluttering when the interval is somewhat mistuned, since many of the difference tones in this latter case are so nearly identical in pitch that they actually overlap, filling out the empty interval between them. Dissonances, on the other hand, are always comparatively complex in their makeup of subjective tones, and unclear, irregular, fluttering in all their parts.

Concerning Stumpf's theory of tonal fusion the author has reached the conclusion that the facts above mentioned are what Stumpf has called fusion, only described in more detail than fusion was described by Stumpf. Stumpf's conclusion, however, that fusion is an obstacle to analysis he rejects as too simple. Analysis depends on quite a number of factors, of which 'fusion' is only one, and not under all circumstances the most powerful one, nor even acting under all conditions towards the same end. What is, for instance, in some ways an obstacle to analysis may at the same time be a strong motive for our endeavor to carry out an analysis.

Publications like this of Krüger are an exceedingly valuable addition to the psychology of music. What is chiefly needed is experimental observation and an application of this to the theory. The author gives us both. It is to be regretted that the third part of the article which is to enter into the more distinctly musical problems is unpublished yet. The reviewer, therefore, does not intend to criticize here the author's views, but prefers to wait until the continuation of the paper brings out the theoretical convictions of the author more definitely.

MAX MEYER.

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Observation sur une musicienne. L. ARRÉAT. *Revue Philosophique*, LVI., 283.

The observations here reported were made upon a French-Russian girl who inherits musical ability from her mother. In her seventh year she composed a minor piece which is correct and has musical merit. She is of the auditory type, has absolute pitch, and visualizes scenery fairly well, but immediately translates it into music. She has visual and motor images of gestures expressive of the emotional state called up by music. Her love of music is closely associated with her religious life, and is as far as possible removed from sensuous enjoyment. She is indifferent to technique, rhythm and timbre. False notes do not annoy her, because her ear corrects them. Music seems to her to exist in an absolute manner. The instrument hampers and limits the musical idea, but is necessary to give it permanence.

The writer suggests that the development of her music may be in the direction of pure music, abstracted from all means of expression and reduced to inner audition. The point of departure, however, is necessarily a concrete emotional state, a pleasant physical excitation.

The age of the girl observed is not mentioned.

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TASTE.

Primitive Taste-Words. ALEXANDER CHAMBERLAIN. *American Journal of Psychology*, XIV., pp. 146-153.

'This brief study contains the chief facts concerning the taste-words of several Algonkian peoples and brings out the primitive confusions and associations of the various senses naturally to be expected at the stage of culture considered.' The writer affirms that the 'Algonkian' tribes are typical American Indians both physically and mentally.

Taste-words of a general signification have the meaning of 'mak-

ing trial by tasting.' A distinction is made between good and bad tastes as between good and bad smelling. Some of the Algonkian languages have words for 'tasteless' or 'insipid.' Specific taste-words are extremely elastic. The same widespread radical *siw*, *shiw*, includes the senses of 'sour,' 'acid,' 'salt,' 'sweet' (sugared), 'effect of light on the eyes,' etc. Another common radical, *wig*, *wing*, includes the significations 'good,' 'pleasant,' 'aromatic,' 'odoriferous,' 'sweet,' etc. Its primitive meaning seems to have been 'pleasant' to either taste or smell. The radical *wisak* includes the meanings of 'bitter' in our sense of the term, 'pungent,' 'pain and suffering,' the feeling of 'burning,' the 'heat' of the weather, 'harshness of voice,' 'loudness' of color, etc. Many of the Algonkian tribes were unacquainted with salt until after their contact with Europeans. In Eliot's translation of the Bible for the Massachusetts Indians, the English word 'salt' is simply transferred, except in James 3: 12 where we have the rendering '*sour* water and fresh.' The Virginian tribes who were acquainted with 'salt-licks,' used the same word for 'salt' and 'sour.'

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SYNÆSTHESIA.

Are Chromæsthesias Variable? F. B. DRESSLAR. Amer. Jour. of Psych., XIV., 368-382.

This is the study of a single case of chromæsthesia, and its chief value lies in the fact that it extended over a number of years. The young lady experimented upon had developed a set of color feelings which during a period of eight years suffered no appreciable change, either in the case of names or of letters of the alphabet. It was found by experiment that the color feeling belonging to a name was suggested by the feeling of the initial letter or by some other dominant color belonging to some other letter in the name. These feelings were most pronounced when the nervous system was least fatigued and are probably due to some suggestion occurring in childhood and have become fixed by habit.

MABEL HOPKINS.

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BOOKS RECEIVED FROM OCTOBER 7
TO NOVEMBER 7.

- Les Jeux des Enfants.* F. QUEYRAT. Paris, Alcan, 1905 (for 1904). Pp. 162. 2 fr. 50.
- La Logique des Sentiments.* TH. RIBOT. Paris, Alcan, 1905 (for 1904). Pp. x + 200. 3 fr. 75.
- La Dissociazione psicologica.* A. RENDA. Turin, Bocca, 1905 (for 1904). Pp. 83. L. 2.
- Il Destino delle Dinastie.* A. RENDA. Turin, Bocca, 1904. Pp. 243. L. 4.
- History of Education.* E. L. KEMP. Philadelphia, Lippincott Co., 1904. Pp. xxiii + 384. \$1.25.
- Psychologische und erkenntnistheoretische Probleme bei Hobbes.* A. H. ABBOTT. Inaug. Diss. Würzburg, 1904. Pp. 138.
- Psychologie der niedersten Tiere.* FR. LUCAS. Vienna and Leipzig, 1905 (for 1904). Pp. viii + 276. M. 5.
- An Introduction to Psychology.* J. CLARK MURRAY. Little, Brown & Co., 1904. Pp. viii + 577.
- The Child, his Thinking, Feeling, and Doing.* A. E. TANNER. Chicago and New York, Rand, McNally and Co., 1904. Pp. 430.
- The Theory of Advertising.* W. D. SCOTT. Boston, Small Maynard & Co., 1904. Pp. xii + 240.
- Contributions to the Study of the Behavior of Lower Organisms.* H. S. JENNINGS. Washington, Carnegie Institution, 1904. Pp. 256. [One of the first fruits of the Carnegie Research Assistantships. In mechanical execution it leaves nothing to be desired.]
- Willensfreiheit und wahre Freiheit.* GUIDO TORRES. Munich, Reinhardt, 1904. Pp. 45.
- The World's Best Poetry.* Ed. by BLISS CARMEN (with a body of associate editors and special contributors). 10 vols., 5000 pp. Philadelphia, John D. Morris & Co., 1904. [A thesaurus of poetry of great value and beauty: an invaluable adjunct to education for every family in which poetry and beauty are instruments of culture.—J. M. B.]

- Etudes sur la Sélection chez l'Homme.* P. JACOBY. Paris, Alcan, 1904. 2^{me} ed. Pp. xvii + 920.
- Les Maladies du Sentiment religieux.* E. MURISIER. 2^{me} ed. Paris, Alcan, 1903. Pp. viii + 175.
- Music and Other Poems.* HENRY VAN DYKE. New York, Scribners, 1904. Pp. 116.
- Surgical Treatment of Bright's Disease.* GEORGE M. EDEBOHLS, M.D. New York, F. F. Lisecki, 1904. Pp. 327.
- Proceedings of the American Association for the Advancement of Science, Fifty-third Meeting, held at St. Louis, Mo., December, 1903-January, 1904.* Published by the Permanent Secretary, 1904. Pp. 634.
- A *Discussion of the Vital Statistics of the Twelfth Census.* Dept. of Commerce and Labor, Bureau of the Census, Bull. 15. Washington, Government Printing Office, 1904. Pp. 24.

NOTES AND NEWS.

The two hundredth anniversary of the death of John Locke was celebrated at the Johns Hopkins University on Nov. 1 with appropriate exercises. Addresses were made by Professors Lloyd Morgan, Woodbridge, Sterrett, Baldwin, and Dr. Wm. Osler. A banquet was given by Dr. Osler, the menu being a reproduction of a quaint dinner order given by Locke shortly before his death. Similar exercises were held on Nov. 12, at the George Washington University at Washington.

The Locke anniversary was also officially and formally commemorated on the exact day, Oct. 28, by the British Academy. A formal address was made by Dr. Hutchinson Stirling, of Edinburgh.

THE following items are taken from the press:

MR. HENRY A. RUGER, assistant in psychology at Columbia University, has been called to the chair of psychology at Colorado College.

AT the University of Brussels, Drs. G. Dwelshawers and R. Berthelot have been promoted to full professorships of philosophy.

DR. BENNO ERDMANN, professor of philosophy at the University of Bonn, who gave one of the addresses at the St. Louis Congress, celebrated the twenty-fifth anniversary of his professorate on August 29.

G. C. FRACKER, A.M. (Iowa), professor of psychology at Coe College, has been granted leave of absence to take an assistantship in

psychology at Columbia University. Mr. Frank G. Bruner, assistant in psychology at the latter institution, is absent on leave at the St. Louis Exposition, where he has temporary charge of the Anthropometric and Psychometric Laboratories; Mr. F. L. Wells, A.B. (Columbia), has been appointed acting assistant during his absence.

DR. JAMES WARD, professor of moral philosophy and logic at Cambridge University, who gave a course of lectures at the University of California during the summer and made one of the addresses at the St. Louis Congress, has returned to England, after giving addresses at Princeton, John Hopkins, Wesleyan, Cornell, and Columbia Universities.

A DEPARTMENT of experimental psychology has been established in the Western University of Pennsylvania, under the charge of Edmund B. Huey, A.B. (Lafayette), Ph.D. (Clark). Two good-sized rooms are being fitted up for the new department, and an appropriation has been made to meet the initial needs for apparatus and books.

AT the recent Cambridge meeting of the British Association, the newly established Psychological Society held a special meeting in conjunction with the section of physiology. The section of physiology is now definitely to include in its title the two studies of physiology and experimental psychology.

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AMERICAN JOURNAL OF PSYCHOLOGY, XV., 3. A Preliminary Study of the Psychology of the English Sparrow: *James P. Porter*. The Soul—A Study of Past and Present Beliefs: *L. D. Arnett*. Facial Vision: A Supplementary Report, with Criticisms: *Robert MacDougall*. Experimental Studies in Mental Deficiency: Three Cases of Imbecility (Mongolian) and Six Cases of Feeble-Mindedness: *F. Kuhlmann*. Miscellany.

ARCHIV FÜR DIE GESAMTE PSYCHOLOGIE, III., 2. Die Massmethoden der experimentellen Psychologie: *Gottlieb Friedrich Lipps*. Miscellany. III., 3. Ueber klinische Ermüdungsmessungen. I. Teil: Die Messung der geistigen Ermüdung: *Wilhelm Specht*. Miscellany.

JOURNAL OF COMPARATIVE NEUROLOGY AND PSYCHOLOGY, XIV., 2. Physiological Evidence of the Fluidity of the Conducting Substance in the Pedal Nerves of the Slug—*Ariolimax columbianus*: *O. P. Jenkins* and *A. J. Carlson*. The Nervous Structures in the Palate of the Frog: the Peripheral Networks and the Nature of their Cells and Fibers: *C. W. Prentiss*. The Beginnings of Social Reaction in Man and Lower Animals: *C. L. Herrick*. Inhibition and Reinforcement of Reaction in the Frog, *Rana clamitans*: *Robert M. Yerkes*. On the Behavior and Reactions of *Limulus* in Early Stages of its Development: *Raymond Pearl*. Recent Studies on the Finer Structure of the Nerve Cell: *G. E. Coghill*. Miscellany. XIV., 3. An Enumeration of the Medullated Nerve Fibers in the Ventral Roots of the Spinal Nerves of Man: *Charles E. Ingbert*. Color Vision: *C. L. Herrick*. Miscellany. XIV., 4. The Associative Processes of the Guinea Pig. A Study of the Psychical Development of an Animal with a Nervous System well Medullated at Birth: *Jessie Allen*. Miscellany.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, I., 14. Of Simpler and More Complex Consciousness: *Henry Rutgers Marshall*. The Dynamic Concept of the Individual: *C. L. Herrick*. Discussion. A Reply to Doctor Holt: *W. P. Montague*. Miscellany. I., 15. The Field of Inattention—The Self: *Henry Rutgers Marshall*. An Experience and an Inquiry: *A. H. Pierce*. Discussion. Two Illustrations of the Methodological Value of Psychology in Metaphysic: *Simon F. MacLennan*. Miscellany. I., 16. What is Pragmatism? *H. Heath Bawden*. The Attitude of Mind Called Interest: *Lucinda Pearl Boggs*. Discussion. Image or Sensation? *Willard C. Gore*. Miscellany. I., 17. Is the Abstract Unreal? *W. H. Sheldon*. Of Conscious Efficiency: *Henry Rutgers Marshall*. Discussion. Answer to Professor Pierce: *Wilfrid Lay*. Miscellany. I., 18. Does 'Consciousness' Exist? *William James*. The Genetic Method in Psychology: *Margaret Floy Washburn*. Discussion. Minor Logic: *Christine Ladd Franklin*. Miscellany. I., 19. Of Noetic Stability; and Belief: *Henry Rutgers Marshall*. The Process of 'Reinterpretation' in the Hegelian Dialectic: *H. A. Overstreet*. Discussion. Idealism and Realism: *C. A. Strong*. Miscellany.

PHILOSOPHICAL REVIEW, XIII., 5. The Infinite New and Old: *J. A. Leighton*. On the Categories of Aristotle: *Isaac Husik*. Proceedings of the Fourth Annual Meeting of the Western Philosophical Association. Discussions. The Physical and the Psychical: *H. Heath Bawden*. Professor Bakewell on the Ego: *C. A. Strong*. Professor Strong on the Passing Thought: *Charles M. Bakewell*. Miscellany.

PSYCHOLOGICAL REVIEW, XI, 4-5. An Experimental Study of the Physiological Accompaniments of Feeling: *L. Pearl Boggs*. The Psychology of Æsthetic Reaction to Rectangular Forms: *Thomas H. Haines and Arthur Ernest Davies*. Conceptions and Misconceptions of Consciousness: *Ralph Barton Perry*. Retinal Local Signs: *Walter F. Dearborn*. Some Peculiarities of Fluctuating and of Inaudible Sounds: *Knight Dunlap*. Some Observations on Visual Imagery: *H. B. Alexander*. Incipient Pseudopia: *Charles Caverno*.

RIVISTA FILOSOFICA, VII, 3. L'Apriorità dello Spazio nella Dottrina Critica di Kant: *C. Cantoni*. L'Immoralismo di Nietzsche giudicato da A. Fouillée: *E. Sacchi*. Ancora sulla Libertà degli Studi nella Scuola Media: *A. Piazzì*. La dottrina delle due Etiche di H. Spencer (Parte III ed ultima): *E. Juvalta*. Miscellany.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNES-ORGANE, XXXV, 5. Experimentelle Untersuchung der beim Nachzeichnen von Strecken und Winkeln entstehenden Grössenfehler: *Julius Richter und Hermann Wamser*. Zur Struktur der Melodie: *Fritz Weinmann*. Erster Kongress für experimentelle Psychologie in Deutschland: *E. Dürr*. Miscellany. XXXV, 6. Zur Struktur der Melodie (Schluss): *Fritz Weinmann*. Meine Erkenntnistheorie und das bestrittene Ich: *Wilhelm Schuppe*. XXXVI, 1-2: Ueber den Einfluss der Dunkeladaptation auf die spezifische Farbenschwelle: *Loeser*. Experimentelle und kritische Beiträge zur Psychologie des Lesens bei kurzen Expositionszeiten: *Erich Becher*. Ueber die Helligkeitsverteilung im Spektrum für das helladaptierte Auge: *Max Levy*. Zur Frage nach den Schmeckflächen des hinteren kindlichen Mundraumes: *F. Kiesow*. Bemerkungen zu der Arbeit 'Ueber die Abhängigkeit der Pupillarreaktion von Ort und Ausdehnung der gereizten Netzhautfläche': *Hugo Wolff*. Erwiderung auf die vorstehenden Bemerkungen von Dr. H. Wolff: *G. Abelsdorff und H. Feilchenfeld*. Miscellany.

